CLAIMS

1. A method for transferring nucleic acid into nerve cells, comprising a step of contacting the nerve cells with a negative-sense RNA viral vector or cells comprising said vector.

2. A method of claim 1, wherein said nerve cells are central nervous system cells.

3. A method of claim 2, wherein said central nervous system cells are ventricular ependymal cells.

4. A method of claim 2, wherein said central nervous system cells are hippocampus cells.

5. The method of claim 1, wherein nucleic acid contained in the negative-sense RNA viral vector comprises a foreign gene.

6. A method of claim 5, further comprising allowing to transiently express said foreign gene.

7. A method of claim 5, wherein said foreign gene encodes a secretory protein.

8. A method of claim 7, wherein said protein acts on the hypothalamic nuclei.

9. A method of claim 7, wherein said protein is capable of protecting the brain from ischemia.

10. A method of claim 9, wherein said protein is neurotrophic factor.

11. A method of claim 5, wherein said foreign gene is selected from the group consisting of FGF-1, FGF-2, FGF-5, NGF, CNTF, BDNF, GDNF, p35, CrmA, ILP, bcl-2 and ORF 150.

12. A method for controlling the feeding behavior of animals, the method comprising administering a negative-sense RNA viral vector comprising FGF-1 or FGF-5 as a foreign gene to animals.

13. A method for controlling the blood sugar level of animals, the method comprising administering a negative-sense RNA viral vector comprising FGF-1 or FGF-5 as a foreign gene to animals.

14. The method of claim 1, wherein said negative-sense RNA virus belongs to the Paramyxoviridae family.

15. A method of claim 14 wherein said virus belonging to the Paramyxoviridae family is Sendai virus.

16. A negative-sense RNA viral vector used for transferring nucleic

acid into nerve cells by the method of claim 1.